

ABSTRACT

A duobinary optical transmission apparatus is disclosed using a duobinary optical
5 transmission technique. The apparatus has increased immunity against dispersion and non-
linearity in high-speed long-distance wavelength division multiplexing (WDM)
transmission of an optical signal, without using an electrical low-pass filter. The duobinary
optical transmission apparatus includes a light source outputting an optical carrier; an NRZ
optical signal generating section receiving an NRZ electrical signal, modulating the optical
10 carrier into an NRZ optical signal according to the NRZ electrical signal, and outputting the
NRZ optical signal, and a duobinary optical signal generating section receiving the NRZ
electrical signal and modulating the NRZ optical signal into a duobinary optical signal.